

In A.) the the wild-type and the mutated EGFR-II are shown, in B.) the wild type and the mutated MuSK is shown. Both EGFR-II and the mutated MuSK can be used as selectable cell surface markers.

FIGURE 1

	MRPSGTAGAA	LLALLAALCP	ASRALEEKKV	CQGTSNKLTQ	LGTFEDHFLS	50
	LQRMFNCEV	VLGNLEITYV	QRNYDLSFLK	TIQEVAGYVL	IALNTVERIP	100
	LENLQIIRGN	MYYENSYALA	VLSNYDANKT	GLKELPMRNL	QEILHGAVRF	150
	SNNPALCNVE	SIQWRDIVSS	DFLSNMSMDF	QNHLGSCQKC	DPSCPNGSCW	200
5	GAGEENCQKL	TKIICAQQCS	GRCRGKSPSD	CCHNQCAAGC	TGPRESDECLV	250
	CRKFRDEATC	KDTCPPMLLY	NPTTYQMDVN	PEGKYSFGAT	CVKKCPRNYV	300
	VDHGSVCVRA	CGADSYEMEE	DGVRKCKKCE	GPCRKVCNGI	GIGEFKDSLS	350
	INATNIKHFK	NCTSISGDLH	ILPVAFRGDS	FTHTPPLDPQ	ELDILKTVKE	400
	ITGFLLIQAW	PENRTDLHAF	ENLEIIRGRT	KQHGFSLAV	VSLNITSLGL	450
10	RSLKEISDGD	VIISGNKNLC	YANTINWKKL	FGTSGQKTKI	ISNRGENSCK	500
	ATGQVCHALC	SPEGCWGPEP	RDCVSCRNVS	RGRECVDKCN	LLEGEPREFV	550
	ENSECQCHP	ECLPQAMNIT	CTGRGPDNCI	QCAHYIDGPH	CVKTCPAGVM	600
	GENNTLVWKY	ADAGHVCHLC	HPNCTYGCTG	PGLEGCPNG	PKIPSIATGM	650
	VGALLLLLV	ALGIGLFMRR	RHIVRKRTL	RLLQERELVE	PLTPSGEAPN	700
15	QALLRILKET	EFKKIKVLGS	GAFGTVYKGL	WIPEGEKVKI	PVAIKELREA	750
	TSPKANKEIL	DEAYVMASVD	NPHVCRLGI	CLTSTVQLIT	QLMPFGCLLD	800
	YVREHKDNIG	SQYLLNWCVQ	IAKGMNYLED	RRLVHRDLAA	RNVLVKTPQH	850
	VKITDFGLAK	LLGAEKEYH	AEGGKVPIKW	MALESILHRI	YTHQSDVWSY	900
	GVTWELMTF	GSKPYDGIPA	SEISSILEKG	ERLPQPPICT	IDVYMIMVKC	950
20	WMIDADSRPK	FRELIEFSK	MARDPQRYLV	IQGDERMHL	SPTDSNFYRA	1000
	LMDEEDMDDV	VDADEYLIPQ	QGFFSSPSTS	RTPLLSSLSA	TSNNSTVACI	1050
	DRNGLQSCPI	KEDSFLQRY	SDPTGALTED	SIDDTFLPVP	EYINQSVPKR	1100
	PAGSVQNPVY	HNQPLNPAPS	RDPHYQDPHS	TAVGNPEYLN	TVQPTCVNST	1150
	FDSPAHWAK	GSHQISLDNP	DYQQDFFPKE	AKPNGIFKGS	TAENAEYLRV	1200
25	APQSSEFIGA					1210

FIGURE 2

	ATGCGACCCCT	CCGGGACGGC	CGGGGCAGCG	CTCCTGGCGC	TGCTGGCTGC	50
	GCTCTGCCCCG	GCGAGTCGGG	CTCTGGAGGA	AAAGAAAGTT	TGCCAAGGCA	100
	CGAGTAACAA	GCTCACGCAG	TTGGGCACTT	TTGAAGATCA	TTTTCTCAGC	150
5	CTCCAGAGGA	TGTTCAATAA	CTGTGAGGTG	GTCCTTGGA	ATTTGGAAAT	200
	TACCTATGTG	CAGAGGAATT	ATGATCTTTC	CTTCTTAAAG	ACCATCCAGG	250
	AGGTGGCTGG	TTATGTCCTC	ATTGCCCTCA	ACACAGTGGA	GCGAATTCCCT	300
	TTGGAAAACC	TGCAGATCAT	CAGAGGAAAT	ATGTACTACG	AAAATTCCCTA	350
	TGCCTTAGCA	GTCTTATCTA	ACTATGATGC	AAATAAAACC	GGACTGAAGG	400
10	AGCTGCCCCAT	GAGAAATTTA	CAGGAAATCC	TGCATGGCGC	CGTGCGGTTC	450
	AGCAACAACC	CTGCCCTGTG	CAACGTGGAG	AGCATCCAGT	GGCGGGACAT	500
	AGTCAGCAGT	GACTTTCTCA	GCAACATGTC	GATGGACTTC	CAGAACCACC	550
	TGGGCAGCTG	CCAAAAGTGT	GATCCAAGCT	GTCCCAATGG	GAGCTGCTGG	600
	GGTGCAGGAG	AGGAGAACTG	CCAGAAACTG	ACCAAAATCA	TCTGTGCCCA	650
15	GCAGTGCTCC	GGGCGCTGCC	GTGGCAAGTC	CCCCAGTGAC	TGCTGCCACA	700
	ACCAGTGTGC	TGCAGGCTGC	ACAGGCCCCC	GGGAGAGCGA	CTGCCTGGTC	750
	TGCCGCAAAT	TCCGAGACGA	AGCCACGTGC	AAGGACACCT	GGGGGGCACT	800
	CATGCTCTAC	AACCCACCA	CGTACCAGAT	GGATGTGAAC	CCCGAGGGCA	850
	AATACAGCTT	TGGTGCCACC	TGCGTGAAGA	AGTGTCCCCG	TAATTATGTG	900
20	GTGACAGATC	ACGGCTCGTG	CGTCCGAGCC	TGTGGGGCCG	ACAGCTATGA	950
	GATGGAGGAA	GACGGCGTCC	GCAAGTGTA	GAAGTGCGAA	GGGCCTTGCC	1000
	GCAAAGTGTG	TAACGGAATA	GGTATTGGTG	AATTTAAAGA	CTCACTCTCC	1050
	ATAAATGCTA	CGAATATTAA	ACACTTCAAA	AACTGCACCT	CCATCAGTGG	1100
	CGATCTCCAC	ATCCTGCCGG	TGGCATTTAG	GGGTGACTCC	TTCACACATA	1150
25	CTCCTCCTCT	GGATCCACAG	GAAGTGGATA	TTCTGAAAAC	CGTAAAGGAA	1200
	ATCACAGGGT	TTTTGCTGAT	TCAGGCTTGG	CCTGAAAACA	GGACGGACCT	1250
	CCATGCCTTT	GAGAACCTAG	AAATCATACG	CGGCAGGACC	AAGCAACATG	1300
	GTCAGTTTTT	TCTTGCAAGT	GTCAGCCTGA	ACATAACATC	CTTGGGATTA	1350
	CGCTCCCTCA	AGGAGATAAG	TGATGGAGAT	GTGATAATTT	CAGGAAACAA	1400

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FIGURE 3A

	AAATTTGTGC	TATGCAAATA	CAATAAACTG	GAAAAAACTG	TTTGGGACCT	1450
	CCGGTCAGAA	AACCAAAATT	ATAAGCAACA	GAGGTGAAAA	CAGCTGCAAG	1500
	GCCACAGGCC	AGGTCTGCCA	TGCCTTGTGC	TCCCCCGAGG	GCTGCTGGGG	1550
5	CCCGGAGCCC	AGGGACTGCG	TCTCTTGCCG	GAATGTCAGC	CGAGGCAGGG	1600
	AATGCGTGGA	CAAGTGCAAG	CTTCTGGAGG	GTGAGCCAAG	GGAGTTTGTG	1650
	GAGAACTCTG	AGTGCAATCA	GTGCCACCCA	GAGTGCCTGC	CTCAGGCCAT	1700
	GAACATCACC	TGCACAGGAC	GGGGACCAGA	CAACTGTATC	CAGTGTGCCC	1750
	ACTACATTGA	CGGCCCCCAC	TGCGTCAAGA	CCTGCCCCGGC	AGGAGTCATG	1800
10	GGAGAAAACA	ACACCCTGGT	CTGGAAGTAC	GCAGACGCCG	GCCATGTGTG	1850
	CCACCTGTGC	CATCCAAACT	GCACCTACGG	ATGCACTGGG	CCAGGTCTTG	1900
	AAGGCTGTCC	AACGAATGGG	CCTAAGATCC	CGTCCATCGC	CACTGGGATG	1950
	GTGGGGGCCC	TCCTCTTGCT	GCTGGTGGTG	GCCCTGGGGA	TCGGCCTCTT	2000
	CATGCGAAGG	CGCCACATCG	TTCGGAAGCG	CACGCTGCGG	AGGCTGCTGC	2050
15	AGGAGAGGGA	GCTTGTGGAG	CCTCTTACAC	CCAGTGGAGA	AGCTCCCAAC	2100
	CAAGCTCTCT	TGAGGATCTT	GAAGGAAACT	GAATTCAAAA	AGATCAAAGT	2150
	GCTGGGCTCC	GGTGCCTTCG	GCACGGTGTA	TAAGGGACTC	TGGATCCCAG	2200
	AAGGTGAGAA	AGTTAAAAAT	CCCGTCGCTA	TCAAGGAATT	AAGAGAAGCA	2250
	ACATCTCCGA	AAGCCAACAA	GGAAATCCTC	GATGAAGCCT	ACGTGATGGC	2300
20	CAGCGTGGAC	AACCCCCACG	TGTGCCGCCT	GCTGGGCATC	TGCCTCACCT	2350
	CCACCGTGCA	ACTCATCACG	CAGCTCATGC	CCTTCGGCTG	CCTCCTGGAC	2400
	TATGTCCGGG	AACACAAAGA	CAATATTGGC	TCCCAGTACC	TGCTCAACTG	2450
	GTGTGTGCAG	ATCGCAAAGG	GCATGAACTA	CTTGGAGGAC	CGTCGCTTGG	2500
	TGCACCGCGA	CCTGGCAGCC	AGGAACGTAC	TGGTGAAAC	ACCGCAGCAT	2550
25	GTCAAGATCA	CAGATTTTGG	GCTGGCCAAA	CTGCTGGGTG	CGGAAGAGAA	2600
	AGAATACCAT	GCAGAAGGAG	GCAAAGTGCC	TATCAAGTGG	ATGGCATTGG	2650
	AATCAATTTT	ACACAGAATC	TATACCCACC	AGAGTGATGT	CTGGAGCTAC	2700
	GGGGTGACCG	TTTGGGAGTT	GATGACCTTT	GGATCCAAGC	CATATGACGG	2750
	AATCCCTGCC	AGCGAGATCT	CCTCCATCCT	GGAGAAAGGA	GAACGCCTCC	2800

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FIGURE 3B

	CTCAGCCACC	CATATGTACC	ATCGATGTCT	ACATGATCAT	GGTCAAGTGC	2850
	TGGATGATAG	ACGCAGATAG	TCGCCCCAAG	TTCCGTGAGT	TGATCATCGA	2900
	ATTCTCCAAA	ATGGCCCGAG	ACCCCCAGCG	CTACCTTGTC	ATTCAGGGGG	2950
	ATGAAAGAAT	GCATTTGCCA	AGTCCTACAG	ACTCCAACCT	CTACCGTGCC	3000
5	CTGATGGATG	AAGAAGACAT	GGACGACGTG	GTGGATGCCG	ACGAGTACCT	3050
	CATCCCACAG	CAGGGCTTCT	TCAGCAGCCC	CTCCACGTCA	CGGACTCCCC	3100
	TCCTGAGCTC	TCTGAGTGCA	ACCAGCAACA	ATTCCACCGT	GGCTTGCACT	3150
	GATAGAAATG	GGCTGCAAAG	CTGTCCCATC	AAGGAAGACA	GCTTCTTGCA	3200
	GCGATACAGC	TCAGACCCCA	CAGGCGCCTT	GACTGAGGAC	AGCATAGACG	3250
10	ACACCTTCCT	CCCAGTGCCT	GAATACATAA	ACCAGTCCGT	TCCCAAAGG	3300
	CCCGCTGGCT	CTGTGCAGAA	TCCTGTCTAT	CACAATCAGC	CTCTGAACCC	3350
	CGCGCCCAGC	AGAGACCCAC	ACTACCAGGA	CCCCACAGC	ACTGCAGTGG	3400
	GCAACCCCGA	GTATCTCAAC	ACTGTCCAGC	CCACCTGTGT	CAACAGCACA	3450
	TTCGACAGCC	CTGCCCCACTG	GGCCCAGAAA	GGCAGCCACC	AAATTAGCCT	3500
15	GGACAACCCT	GACTACCAGC	AGGACTTCTT	TCCCAAGGAA	GCCAAGCCAA	3550
	ATGGCATCTT	TAAGGGCTCC	ACAGCTGAAA	ATGCAGAATA	CCTAAGGGTC	3600
	GCGCCACAAA	GCAGTGAATT	TATTGGAGCA	<b>TGA</b>		3630

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FIGURE 3C

# **First PCR reaction**

EGFR1+ EGFR3 primer

a.)  EGFR cDNA

**PCR product a**  
encoding  
aa 1 to 24 fused  
to aa 313 to 319

EGFR2

+

EGFR2220R

primer


b.)  EGFR cDNA

**PCR product b**  
encoding  
aa 18 to 24 fused  
to aa 313 to 678

## **Second PCR reaction**

a.)  **PCR product a + b**

**overlap extension**

 **mutant PCR product c**  
encoding aa 1 to 24 fused to aa 313 to 678  
with a stop codon in position 679

EGFR1 + EGFR2220R primer

b.)  **amplification of  
PCR product c**

**FIGURE 4**

FIGURE 5

